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10/590,489	08/24/2006	Yasuhiro Kuwahara	2006_1385A	1063

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EXAMINER	
GE, YUZHEN	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/590,489	KUWAHARA ET AL.	
	Examiner	Art Unit	
	YUZHEN GE	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) *15-17 and 21-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 August 2009* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/6/2009,8/24/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Examiner's Remark

Applicant's response to election/restriction requirement, filed on November 6, 2009, has been received and entered into the file. According to the response, Group I (claims 1-14 and 18-20) is elected without traverse and therefore claims 15-17 and 21-23 are withdrawn from examination.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows (see also MPEP 2106):

> Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.
>
> When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).
>
> In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

2. Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 19 defines an image processing program

embodying functional descriptive material (i.e., a computer program or computer executable code). However, the claim does not define a "computer-readable medium or computer-readable memory" and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program. The examiner suggests amending the claim(s) to embody the program on "computer-readable storage medium" or equivalent. Any amendment to the claim should be commensurate with its corresponding disclosure.

3. Claim 18 is rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Federal Circuit[1], relying upon Supreme Court precedent[2], has indicated that a statutory "process" under 35 U.S.C. 101 must (1) be tied to a particular machine or apparatus, or (2) transform a particular article to a different state or thing. This is referred to as the "machine or transformation test", whereby the recitation of a particular machine or transformation of an article must impose meaningful limits on the claim's scope to impart patent-eligibility (See *Benson*, 409 U.S. at 71-72), and the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity (See *Flook*, 437 U.S. at 590"). While the instant claim(s) recite a series of steps or acts to be

[1] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

performed, the claim(s) neither transform an article nor positively tie to a particular machine that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-14 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 1-14 and 20 use "operable to" or "for" which merely specifies a possible state of a particular unit and not necessarily or sufficient condition for said unit to perform particular function. For examination purposes, the examiner will interpret the limitation uses "operable to" or "for" as the unit actually performing the particular function, for example, "processing degree setting unit operable to set…" of claim 1 is interpreted as "processing degree setting unit that sets…", "a processing degree setting portion for setting…" of claim 20 is interpreted as "a processing degree setting portion that sets…"

7. Examiner's Note: All claims intrinsic with the coordinating conjunction "for", linking verb "to be", and the phrases "operable to", "configured to" or "capable of" usually render the following element non-assertive or more simply passive. In others words that which follows "for", "to be", "adapted to", "configured to" and or "capable of" usually does not take place and is merely an intended use, thus non-functional and therefore most likely without patentable weight. In general claim language with "for" usually only suggests intended use and adds no

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[2] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v.*

further limitation to the claims. The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

(A) statements of intended use or field of use,

(B) "operable to", "adapted to" or "adapted for" clauses, (C) "wherein" clauses, or (D) "whereby" clauses.

This list of examples is not intended to be exhaustive. See also MPEP § 2111.04.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-2, 4-14 (interpreted) and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Torigoe et al (US Patent Pub. 2003/0202194, cited by IDS).

Regarding claim 1 (interpreted), Torigoe et al teach an image processing device comprising:

Benson, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

processing degree setting unit operable to set a target degree of color processing with regard to at least two properties of a plurality of properties of an image signal, as a single target processing degree (Fig. 3, and Fig. 2, paragraph [0073], the color is of multi-dimension and therefore is related to at least two properties of an image signal);

processing coefficient group creation unit operable to create a processing coefficient group for performing the color processing of the target processing degree, based on the target processing degree that is set by the processing degree setting unit and a plurality of base coefficient groups that perform the color processing to differing degrees (base coefficient groups are the profiles corresponding to 301 and 302 and 303, Fig. 3, paragraphs [0073]-[0079]); and

color processing execution unit operable to perform the color processing with respect to the image signal using the processing coefficient group that is created by the processing coefficient group creation unit (paragraph [0079], 203 and 204 of Fig. 2).

Regarding claim 2, Torigoe et al teach the image processing device according to claim 1, wherein the processing coefficient group creation unit creates the processing coefficient group by interpolating or extrapolating the plurality of base coefficient groups based on the target processing degree (Fig. 3, paragraph [0073]-[0079]).

Regarding claim 4, Torigoe et al teach the image processing device according to claim 1, wherein the color processing is memory color correction (Fig. 3, paragraphs [0073]-[0079], Figs.11-14).

Regarding claim 5, Torigoe et al teach the image processing device according to claim 4, wherein the processing degree setting unit sets a correction trend of memory color correction as the target processing degree; and wherein the processing coefficient group creation unit creates the processing coefficient group by interpolating or extrapolating the plurality of base coefficient groups for performing memory color correction with different correction trends based on the target processing degree (Fig. 3, paragraphs [0073]-[0079], Figs.11-14).

Regarding claim 6, Torigoe et al teach the image processing device according to claim 4, wherein the processing degree setting unit sets a correction strength of memory color correction as the target processing degree (Figs. 3, 11-14); and wherein the processing coefficient group creation unit creates the processing coefficient group by interpolating or extrapolating a base coefficient group for performing memory color correction of a predetermined correction strength and a base coefficient group with which memory color correction is not performed, based on the target processing degree (paragraphs [0073]-[0079], Figs. 3 and 11-14)).

Regarding claim 7, Torigoe et al teach the image processing device according to claim 1, wherein the plurality of base coefficient groups are a plurality of base matrix data whose size corresponds to the number of the plurality of properties of the image signal (Fig. 3, paragraph [0079], the color have three dimensions); and wherein the color processing execution unit performs a matrix computation on the image signal using processing matrix data that is created by the processing coefficient group creation unit (paragraph [0076]-[0079] and Figs. 3, 7-8).

Regarding claim 8, Torigoe et al teach the image processing device according to claim 7, wherein the processing coefficient group creation unit creates the processing matrix data by interpolating or extrapolating the base matrix data based on the target processing degree (Fig. 3, paragraphs [0076]-[0079]).

Regarding claim 9, Torigoe et al teach the image processing device according to claim 1, wherein the plurality of base coefficient groups are a plurality of base lookup tables that store values of the image signal after the color processing (paragraph [0094]), corresponding to the values of the image signal; and wherein the color processing execution unit performs the color processing on the image signal using a processing lookup table that is created by the processing coefficient group creation unit (paragraphs [0094]-[0096], Figs. 7-8).

Regarding claim 10, Torigoe et al teach the image processing device according to claim 9, wherein the processing coefficient group creation unit creates the processing lookup table by interpolating or extrapolating the base lookup tables based on the target processing degree (Fig. 3, paragraphs [0073]-[0079], [0094] and [0102], Fig. 4).

Regarding claim 11, Torigoe et al teach the image processing device according to claim 1, wherein the processing degree setting unit has first processing degree setting unit for setting a first target processing degree, which is a target for a correction trend of memory color correction (setting between 301 and 302 is setting a correction trend, Fig. 3), and second

processing degree setting unit for setting a second target processing degree, which is a target for a correction strength of memory color correction (setting Dist in Fig. 3 is setting of a second degree); wherein the processing coefficient group creation unit creates the processing coefficient group by interpolating or extrapolating the plurality of base coefficient groups for performing memory color correction at different correction trends, based on the first processing degree and the second processing degree (paragraphs [0073]-[0079], Fig. 3).

Regarding claim 12, Torigoe et al teach the image processing device according to claim 1, wherein the processing coefficient group creation unit creates the processing coefficient group by changing only a specific section of the base coefficient groups (only the 301 and 302 are used to interpolate 304, Fig. 3, paragraphs [0073]-[0079]).

Regarding claim 13, Torigoe et al teach the image processing device according to claim 12, wherein the specific section is a section that is determined by the processing degree setting unit (Fig. 3).

Regarding claim 14, Torigoe et al teach the image processing device according to claim 12, wherein the specific section is a section of the base coefficient groups that gives a transformation coefficient for a predetermined memory color (Fig. 3, and Figs. 11-13, paragraph [0079]).

Claims 18-20 are the corresponding method, image processing program and circuit device claims of claim 1. Torigoe et al teach a method (abstract), an image processing program (51007 in Fig. 18) and a circuit device (Fig. 18). Thus Torigoe et al teach claims 18-20 as evidently explained in the above-cited passages.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Torigoe et al in view of Fujino (US Patent Pub. 20040227964).

Regarding claim 3, Torigoe et al teach the image processing device according to claim 1. Torigoe et al further teach the plurality of properties include a brightness of the image signal (paragraph [0079]). However they do not explicitly teach wherein the plurality of properties include a hue, and a vividness of the image signal. In the same field of endeavor, Fujino teaches a plurality of properties of an image include a hue and a vividness (Fig. 6(a), Figs. 22(a)-22(d), paragraphs [0067]-[0070]). It is well known in the art that a color space including hue, a vividness and a brightness can be used to represent colors of an image and therefore many prior arts that use such color space (office notice). It is desirable to choose a color space or properties depending on the need of the application. Therefore it would have been obvious to

one of the ordinary skills in the art, at the time of invention, to use hue, vividness and a brightness to represent image signals.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUZHEN GE whose telephone number is (571)272-7636. The examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuzhen Ge/
Primary Examiner, Art Unit 2624